1. A respiratory analyzer for determining a respiratory parameter of a subject, comprising:

a) a flow module, the flow module including:

a housing, enclosing a flow pathway through which respired gases pass as the subject breathes through the respiratory analyzer;

a flow meter, providing a flow signal correlated with a flow rate of gases through a portion of the flow pathway; and

a gas sensor, providing a gas sensor signal correlated with a partial pressure of a predetermined gas within the flow pathway; and

b) a computation module, the computation module being in data communication with the flow module, and operable to determine a respiratory parameter of the subject.

2. The respiratory analyzer of claim 1, wherein the gas sensor is an oxygen sensor, and the respiratory parameter is a consumed oxygen volume.

3. The respiratory analyzer of claim 2, wherein the flow pathway includes a flow tube partially enclosing a central flow pathway, the flow tube having a first end and a second end, a first end portion proximate to the first end, and a second end portion proximate to the second end.

4. The respiratory analyzer of claim 3, wherein the flow pathway includes a chamber surrounding the first end portion of the flow tube, the chamber and the central flow pathway being in fluid communication through a first plurality of apertures disposed in the first end portion of the flow tube.

5. The respiratory analyzer of claim 3, wherein the second end portion is surrounded by an atmospheric chamber, the atmospheric chamber being partially open to the atmosphere through an atmospheric aperture, the atmospheric chamber and the central

flow path being in fluid communication through a second plurality of apertures disposed in the second end portion of the flow tube.

6. The respiratory analyzer of claim 5, wherein the flow meter comprises a pair of opposed ultrasonic transducers in ultrasonic communication through gases within the central flow pathway, wherein a first ultrasonic transducer is supported within the first end portion of the flow tube, and a second ultrasonic transducer is supported within the second end portion the flow tube.

7. The respiratory analyzer of claim 6, wherein the oxygen sensor is a fluorescence oxygen sensor.

8. The respiratory analyzer of claim 3, wherein the flow module is adapted to be supported by a strap disposed around the head of the subject, the computation module is adapted to be supported on the torso of the subject, and the flow module and the computation module are in electrical communication through a cable.

9. The respiratory analyzer of claim 8, wherein the computation module includes a support module in mechanical association with, and electrical communication with, a portable computer having a display, the support module and the portable computer cooperating to provide a visual indication of the respiratory parameter on the display of the portable computer.

10. The respiratory analyzer of claim 8, further comprising:

a mouthpiece through which the subject breathes;

a filter module including a pathogen filter operable to remove a pathogen from subject exhalations passing through the respiratory analyzer as the subject breathes through the respiratory analyzer;

a chamber disposed so as to substantially surround the first end portion of the flow tube;

a first plurality of apertures disposed in the first end portion of the flow tube, through which the chamber is in fluid communication with the central flow path;

a wind guard disposed around the second end portion of the flow path, operable to partially shield the second end portion of the flow path from external air movements, an interior surface of the wind guard defining an atmospheric chamber substantially surrounding the second end portion of the flow tube, the atmospheric chamber being in fluid communication with the atmosphere through an atmospheric aperture; and

a second plurality of apertures in the second end portion of the flow tube, through which the central flow path is in fluid communication with the atmospheric chamber.

11. The respiratory analyzer of claim 10, wherein the atmospheric aperture has a diameter greater than an external diameter of the flow tube.

12. The respiratory analyzer of claim 10, wherein the second plurality of apertures includes a plurality of aperture rings encircling the second end of the flow tube, each aperture ring including at least ten apertures.

13. A respiratory analyzer for determining a respiratory parameter of a subject, comprising:

a respiratory connector, through which the subject breathes;

a flow module housing;

a flow tube within the flow module housing, partially enclosing a central flow pathway through which respired gases from the subject flow when the subject breathes through the respiratory analyzer, the flow tube having a first end and a second end;

a first ultrasonic transducer supported proximate to the first end of the flow tube;

a second ultrasonic transducer supported proximate to the second end of the flow tube, wherein the first and second ultrasonic transducers are operable to communicate ultrasonic signals through gases in the central flow pathway, and to provide flow rate signals correlated with a flow rate of gases in the central flow pathway;

an oxygen sensor providing an oxygen sensor signal correlated with a partial pressure of oxygen in the central flow pathway; and

a computation module, operable to determine the respiratory parameter of the subject,

wherein the central flow pathway is in fluid communication with the respiratory connector through a first plurality of apertures disposed in proximity to the first end of the flow tube, and the central flow pathway is in fluid communication with atmospheric gas through a second plurality of apertures disposed in proximity to the second end of the flow tube.

14. The respiratory analyzer of claim 13, wherein the respiratory parameter is an oxygen volume consumed by the subject.

15. The analyzer of claim 13, wherein the flow tube has a non-uniform cross-section having a minimum cross-sectional area at a position of minimum cross-section located between the first end of the flow tube and the second end of the flow tube.

16. The respiratory analyzer of claim 13, wherein a chamber surrounds a first end portion of the flow tube proximate to the first end of the flow tube, wherein the chamber and the central flow pathway are in fluid communication through the first plurality of apertures.

17. The respiratory analyzer of claim 13, wherein an atmospheric chamber surrounds a second end portion of the flow tube proximate to the second end of the flow

tube, wherein the central flow pathway and the atmospheric chamber are in fluid communication through the second plurality of apertures.

18. The respiratory analyzer of claim 13, wherein the atmospheric chamber is partially enclosed by a wind guard extending from the flow tube, the wind guard being operable to shield the second plurality of apertures from atmospheric air movements.

19. A respiratory analyzer for determining a respiratory parameter of a subject, comprising:

a respiratory connector, through which the subject breathes;

a filter module, in fluid communication with the respiratory connector, through which respired gases pass as the subject breathes through the respiratory analyzer, the filter module including a pathogen filter;

a flow tube, enclosing a central flow pathway, the flow tube having a first end and a second end, a first end portion proximate to the first end, and a second end portion proximate to the second end;

a chamber, in fluid communication with the filter module, surrounding the first end portion of the flow tube, the chamber and the central flow pathway being in fluid communication through one or more apertures in the first end portion of the flow tube;

a wind guard connected to an external surface of flow tube and having a flared portion extending beyond the second end of the flow tube, wherein the wind guard encloses an atmospheric chamber surrounding the second end portion of the flow tube, the atmospheric chamber opening to the atmosphere through an atmospheric aperture bounded by the wind guard and having a diameter greater than the external diameter of the flow tube, the atmospheric chamber and the central flow pathway being in fluid communication through one or more apertures in the second end portion of the flow tube;

a gas sensor, providing a gas sensor signal responsive to a partial pressure of a predetermined gas within the central flow pathway;

a flow meter, providing a flow meter signal correlated with a flow rate of gases within the central flow pathway; and

a computation module, receiving the flow meter signal and the gas sensor signal, and operable to compute the respiratory parameter of the subject.

20. The respiratory analyzer of claim 19, wherein the first end portion of the flow tube includes a plurality of apertures providing a plurality of gaseous paths between the central flow pathway and the chamber.

21. The respiratory analyzer of claim 19, wherein the second end portion of the flow tube includes a plurality of apertures providing a plurality of gaseous paths between the central flow pathway and the atmospheric chamber.

22. The respiratory analyzer of claim 19, wherein the gas sensor is an oxygen sensor.

23. The respiratory analyzer of claim 19, wherein the flow meter includes a first ultrasonic transducer supported within the first end portion of the flow tube, and a second ultrasonic transducer supported within the second end portion of the flow tube, the first and second ultrasonic transducers being in ultrasonic communication through gases within the central flow pathway.

24. The respiratory analyzer of claim 19, wherein the subject breathes through a flow module supported by the head of the subject, the computation module being a separate module supported by the body of the subject, the computation module being in electrical communication with the flow module through an electrical cable.

25. A method of determining a resting metabolic rate of a subject, the method including:

providing the subject with a heart rate monitor;

determining heart rate of the subject over a period of time, during which the subject achieves a resting state;

determining a resting heart rate of the subject;

determining a measured metabolic rate of the subject over a measurement period;

determining a measurement heart rate of the subject over the measurement period;

determining the resting metabolic rate from the measured metabolic rate, the measurement heart rate, and the resting heart rate.

26. The method of claim 25, wherein the resting metabolic rate is determined as the measured metabolic rate multiplied by the ratio of the resting heart rate to the measurement heart rate.

27. The method of claim 25, wherein the measurement heart rate is an average heart rate of the subject over the measurement period.

28. A method of determining an activity energy expenditure for a subject for an activity, comprising:

determining a resting metabolic rate of the subject;

determining a resting heart rate of the subject;

determining an excess metabolic rate of the subject during a first performance of the activity and during a subsequent recovery time, wherein the excess metabolic rate is the metabolic rate of the subject minus the resting metabolic rate of the subject;

determining an excess heart rate for the subject during the first performance of the activity and during the subsequent recovery time, wherein the excess heart rate is the heart rate of the subject minus the resting heart rate of the subject;

integrating the excess metabolic rate so as to determine an activity energy expenditure for the first performance of activity;

integrating the excess heart rate so as to determine an activity excess heart beat number for the first performance of activity;

determining a correlation between the activity excess heart beat number and the activity energy expenditure;

determining a later activity energy expenditure for a later performance of the activity using heart rate data collected during the later performance of the activity and the correlation determined for the first performance of the activity.